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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,885	02/04/2002	Tsutomu Inada	04995/049001	4838

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OSHA & MAY L.L.P.  
1221 MCKINNEY STREET  
HOUSTON, TX 77010

EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 04/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/066,885

Applicant(s)

INADA, TSUTOMU

Examiner

Peter Vincent Agustin

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2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

2. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 3 & 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Childers et al. (hereafter Childers) (US 5,097,361) in view of Kataoka (JP 58178676 A) and Zucker et al. (hereafter Zucker) (US 5,278,818).

In regard to claim 1, Childers discloses an optical pickup actuator circuit (figure 2, element 13) comprising: a lens holder (20) supported so as to be slidable along a support shaft

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(21) and rotatable around said support shaft and for holding an objective lens (22) so that said lens forms an image of a light beam on a desired track on an information recording surface of an optical disk (figure 1, element 10); a focusing coil (figure 2, element 24) attached to said lens holder; and a focusing magnet (inherent: see note below) fixedly disposed so as to be opposite to said focusing coil; wherein two diodes (figure 7, elements 71 & 72) are parallel-connected to tracking coils. However, Childers does not disclose that the two diodes are parallel-connected to the focusing coil. Furthermore, Childers does not disclose that an input voltage not lower than a predetermined voltage is led to the ground by the two diodes.

Kataoka discloses a diode (figure 3, element 22) parallel-connected to a focusing coil (15) in order to stabilize a current supplied to a focusing coil (see purpose). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have connected the diodes in parallel with the focusing coils of Childers as suggested by Kataoka, the motivation being to stabilize the current supplied to the focusing coil. Furthermore, parallel-connecting the two diodes to the focusing coils of Childers would have been obvious to one of ordinary skill in the art at the time of invention by the applicant because parallel-connecting the two diodes to the tracking coils as taught by Childers and parallel-connecting the two diodes to the focusing coils would serve the same purpose of limiting the amount of current in the event that a drive signal exceeds a predetermined value, thereby preventing damage to the optical head.

Zucker discloses (figure 1) two diodes (D1 & D2) connected in parallel to a coil (L), wherein the other ends of the diodes not connected to the coil are connected to the ground. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have used the diode configuration of Zucker in lieu of the diode configuration of

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Childers because both configurations perform the same function of limiting the amount of current through the coil, thereby preventing damage to the coil.

In regard to claim 5, Childers discloses that said diodes comprise Zener diodes (as shown by figure 7, elements 71 & 72).

It should be noted that a focusing magnet is inherently disclosed by Childers because it is well-known in the art that focusing is achieved by a combination of magnets and coils; therefore, the presence of the focusing coil (figure 2, element 24) suggests the presence of a focusing magnet.

In regard to claim 2, Childers discloses an optical pickup actuator circuit (figure 2, element 13) comprising: a lens holder (20) supported so as to be slidable along a support shaft (21) and rotatable around said support shaft and for holding an objective lens (22) so that said lens forms an image of a light beam on a desired track on an information recording surface of an optical disk (figure 1, element 10); focusing (figure 2, element 24) and tracking coils (26) attached to said lens holder; and focusing (inherent: see note above) and tracking magnets (28) fixedly disposed so as to be opposite to said focusing and tracking coils respectively; wherein a semiconductor device (figure 7, element 71 or 72) is provided at said tracking coils. However, Childers does not disclose that the two diodes are parallel-connected to the focusing coil. Furthermore, Childers does not disclose that an input voltage not lower than a predetermined voltage is led to the ground by the semiconductor device.

Kataoka discloses a semiconductor (figure 3, element 22) parallel-connected to a focusing coil (15) in order to stabilize a current supplied to a focusing coil (see purpose). It would have been obvious to one of ordinary skill in the art at the time of invention by the

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applicant to have connected the semiconductors in parallel with the focusing coils of Childers as suggested by Kataoka, the motivation being to stabilize the current supplied to the focusing coil. Furthermore, parallel-connecting the two semiconductors to the focusing coils of Childers would have been obvious to one of ordinary skill in the art at the time of invention by the applicant because parallel-connecting the two semiconductors to the tracking coils as taught by Childers and parallel-connecting the two semiconductors to the focusing coils would serve the same purpose of limiting the amount of current in the event that a drive signal exceeds a predetermined value, thereby preventing damage to the optical head.

Zucker discloses (figure 1) two semiconductors (D1 & D2) connected in parallel to a coil (L), wherein the other ends of the semiconductors not connected to the coil are connected to the ground. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have used the semiconductor configuration of Zucker in lieu of the semiconductor configuration of Childers because both configurations perform the same function of limiting the amount of current through the coil, thereby preventing damage to the coil.

In regard to claim 3, Childers discloses that said semiconductor device includes two diodes (as shown by figure 7, elements 71 & 72).

6. Claims 4 & 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Childers in view of Zucker.

In regard to claim 4, Childers discloses an optical pickup actuator circuit (figure 2, element 13) comprising: a lens holder (20) for an objective lens (22) which is freely movable in a vertical direction (23) that moves apart from or toward tracks of an optical disk (figure 1, element 10) and in a direction that moves across the track; focusing (figure 2, element 24) and

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tracking coils (26) attached to said lens holder; focusing (inherent: see note above) and tracking magnets (28) fixedly disposed so as to be opposite to said focusing and tracking coils, respectively; and diodes (figure 7, elements 71 & 72) connected to one of said focusing and tracking coils. However, Childers does not disclose that the diodes are configured to lead an input voltage of a predetermined voltage or more to a ground side.

Zucker discloses (figure 1) two diodes (D1 & D2) connected in parallel to a coil (L), wherein the other ends of the diodes not connected to the coil are connected to the ground. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have used the diode configuration of Zucker in lieu of the diode configuration of Childers because both configurations perform the same function of limiting the amount of current through the coil, thereby preventing damage to the coil.

In regard to claim 6, Childers discloses that said diodes comprise Zener diodes (as shown by figure 7, elements 71 & 72).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsuchiya et al. (US 5,687,154) and Suenaga et al. (US 5,210,732) both disclose an optical pickup device having a lens holder, objective lens, tracking and focusing coils, tracking and focusing magnets, and a shaft.

Shikichi (US 5,029,151) discloses an optical information processing apparatus including a limiter for limiting error of focusing or tracking actuators and a circuit for adjusting the limit range thereof.

Mukai et al. (US 4,688,202) discloses (see figures 6 & 7) diodes that limits the excess bias voltage.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is (703) 305-8980. The examiner can normally be reached on Monday thru Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PVA  
04/14/2004

  
W. R. YOUNG  
PRIMARY EXAMINER